



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

and because it is a good preparation for analytic geometry. The authors have not put this topic in their book. Perhaps they thought it would have to be dragged in without any motive that the student could see.

The last chapter in the book (25 pages) is devoted to Spherical Trigonometry.

The logarithmic and trigonometric tables prepared under the direction of E. R. Hedrick are unusually complete. They are five-place tables and include tables of powers, roots, and reciprocals, and natural logarithms. Brief four-place tables are added for use in problems that do not demand extreme accuracy. The introduction explains the slide rule and gives a graphic representation of interpolation.

Answers to problems are not given.

W. H. BUSSEY.

NOTES AND NEWS.

The August number of *The Popular Science Monthly* contains an article entitled "Bernoulli's Principle and its application to explain the curving of a base ball."

Mr. E. J. Moulton has been promoted to an assistant professorship in mathematics at Northwestern University. He has just taken the doctor's degree at the summer convocation at the University of Chicago.

John Wiley and Sons have recently published "The Theory of Relativity," by Professor Robert D. Carmichael, of the University of Indiana, as No. 12 of the series of mathematical monographs edited by Mansfield Merriman and Robert S. Woodward. The price is \$1.00.

Mr. H. R. Kingston, graduate student at the University of Chicago, has been appointed to an instructorship in mathematics at the University of Manitoba, Winnipeg, Canada.

The Macmillan Company has published an *edition de luxe* of "The Davis Calculus," printed on India paper and bound in flexible leather. The thickness of the book is one half that of the regular edition. The price is \$2.40. The price of the regular edition is \$2.00.

DR. W. KILLING has for the second time been awarded the Lobachevski prize of the Physico-Mathematical Society of Kasan.

Miss Martha McDonald, graduate student at the University of Chicago, is to be in charge of the department of mathematics at Oxford College for Women, Oxford, Ohio.

"Tables of the Exponential Function" computed to twenty places, compiled by C. E. VAN ORSTAND, were published in the June number of the *Journal of the Washington Academy of Sciences*.

At the University of Chicago H. E. SLAUGHT and G. A. BLISS have been promoted to full professorships in mathematics.

M. PIERRE BOUTROUX will be on the faculty of Princeton University this fall as a professor of mathematics. He is closely related to the Poincaré family.

At Stanford University W. A. MANNING has been promoted to an associate professorship in mathematics and H. F. BLICHFELDT to a full professorship.

Mr. H. N. WRIGHT, who received the doctor's degree at the University of California last May, has taken charge of mathematics in the University Extension work of the University of California.

Miss JOSEPHINE E. BURNS, who received the doctor's degree at the University of Illinois last June, has been appointed instructor in mathematics in the same institution in place of Dr. R. M. Winger, who accepted an assistant professorship in the University of Oregon.

On the twenty-fifth anniversary of President Slocum's assumption of office at Colorado College, appropriate celebration ceremonies were held at the June Commencement. On this occasion the trustees bestowed upon Dean FLORIAN CAJORI the honorary degree of Doctor of Laws. A few days later the University of Wisconsin conferred the degree Sc.D. upon Professor Cajori.

The July number of *The Monist* contains the following articles of interest to mathematicians: "The New Mechanics," by the late Henri Poincaré; "The Principle of Relativity as a Phase in the Development of Science," by Paul Carus; and "Robert Hooke as a Precursor of Newton," by Philip E. B. Jourdain.

The Eastern Association of Physics Teachers held its sixty-fourth meeting in Boston on March 29, 1913. An interesting item on the program was the report of a committee on new books. In this way important books are brought before teachers for discussion. Possibly this may be a good suggestion for meetings of mathematics associations.

The attendance of advanced students in mathematics at the University of Chicago summer quarter has been unusually large. All courses have been full but notably those in Theory of Functions and Integral Equations offered by Professor Bolza have been overflowing. The weekly meetings of the Mathematical Club have drawn large numbers. The programs have been devoted alternately to the discussion of pedagogical questions and the reading of technical papers of a research character.

During the last Summer Session of the University of California the High School Teachers of California held various sessions. Two of these were devoted to the consideration of mathematical questions. The following papers were read during these two sessions: "Mathematical troubles of the freshman," by Professor G. A. MILLER; "A broader program for advanced mathematics in secondary schools," by Dr. H. W. STAGER; "Course in plane surveying," by Professor F. S. FOOTE; Arithmetic and the introductory high school," by Miss T. BROOKMAN; "Arithmetic and bookkeeping of everyday life," by Mr. F. M. POWELL; "The irreducible minimum in high school mathematics," by Mr. C. M. TITUS.

On June 19 a statue of LORD KELVIN, subscribed for by the citizens of Belfast, was unveiled in that city by Sir Joseph Larmor. Belfast is the birthplace of Lord Kelvin. Another statue of Lord Kelvin, erected by the contributions of his fellow citizens in Glasgow and the West of Scotland, has been placed in position by the side of the new Kelvin Avenue in Glasgow and will be unveiled on October 8 next. A window in Westminster Abbey, in memory of Lord Kelvin, was unveiled on July 15.

Weekly popular lectures on mathematics were given during the summer session of the University of Wisconsin as follows: "The history of Greek geometry," by Professor L. W. DOWLING; "Soap films and their mathematical theory, with demonstrations," by Professor ARNOLD DRESDEN; "Zeno's paradoxes of the flying arrow and of Achilles and the tortoise, an historical treatment," by Dean FLORIAN CAJORI of Colorado College; "On the teaching of arithmetic," a conference conducted by Professor W. W. HART.

The May number of *L'Enseignement Mathématique*, the official organ of the international commission on mathematical teaching, contains an interesting popular article by GINO LORIA of the University of Genoa on "Excentricités et mystères des nombres." The March number of the same journal contains an article by A. N. WHITEHEAD of University College, London, on "The Principles of Mathematics in relation to elementary teaching," which discusses some vital topics such as are suggested in the following quotation: "There is an idea, widely prevalent, that it is possible to teach mathematics of a relatively advanced type—such as differential calculus, for instance—in a way useful to physicists and engineers without any attention to its logic or its theory. This seems to me to be a profound mistake. . . . I fully admit that the proper way to start such a subject as the differential calculus is to plunge quickly into the use of the notation in a few absurdly simple cases, with a crude explanation of the idea of rates of increase. . . . The habit of logical precision with its necessary concentration of thought upon abstract ideas is not wholly possible in the initial stages of learning. It is the ideal at which the teacher should aim."

The final installment of Professor Cajori's *History of the Logarithmic and Exponential Concepts* is found in this issue, together with a table of contents and some additions and corrections. This series of articles is not to be reprinted separately and can be obtained only as an integral part of Volume XX of the MONTHLY. The interest in historical studies will be continued in the October issue with the first installment of *Number Systems of the North American Indians*, by W. C. Eells of Whitworth College, Tacoma, Washington. These studies are based upon a critical examination of about 300 languages and dialects. The linguistic diversity of the North American Indians is one of the most remarkable features of world ethnology, and Professor Eells discusses their number words and numer systems in a highly instructive and interesting manner.

The annual report by *Science* concerning "Doctorates conferred by American Universities" was printed in the issue of August 22. This report shows in tabular

form the average number of doctorates of philosophy and of science conferred by each of 44 universities during the ten year period, 1898–1907, the actual numbers for each year from 1908 to 1913, and the total numbers for the sixteen year period, 1898–1913. Previous to 1908 Chicago had been in the lead; since that date Columbia has forged rapidly ahead. During the sixteen years twelve universities have conferred more than one hundred doctorates each. These are in order: Columbia, 702; Chicago, 648; Harvard, 588; Yale, 522; Johns Hopkins, 475; Pennsylvania, 406; Cornell, 374; Wisconsin, 206; Clark, 159; New York, 149; Michigan, 125; and Boston, 104. Twelve others have conferred from thirty to eighty each; and eleven others, from ten to eighteen each. The grand total is 5237 in all departments.

A similar tabulation is given for doctorates conferred in the science departments alone. Here, only eight universities have conferred more than 100 doctorates each, and Chicago is decidedly in the lead. They are: Chicago, 333; Johns Hopkins, 283; Columbia, 281; Cornell, 255; Harvard, 235; Yale, 234; Pennsylvania, 161; and Clark, 145. The grand total is 2541 in all science departments.

A third table shows the numbers for various departments during the same periods. The totals for these are: Chemistry, 682; Physics, 311; Zoology, 286; Psychology, 275; Mathematics, 248; Botany, 240; English, 192; History, 152; Geology, 151; Economics, 125; Philosophy, 121. Fifteen other departments show a total of 25 to 97 each; six others a total of 12 to 20 each, the remaining departments showing less than ten each.

The number of doctorates in mathematics averaged 12.1 for the years 1898–1907, and 21.1 for the years 1908–1913, with a grand total of 248 for the 16 years. For 1913 there were 20 doctorates in mathematics distributed as follows: Harvard, 4; Columbia and Johns Hopkins, 3 each; Boston, Michigan, and Yale, 2 each; Chicago, Illinois, Pennsylvania, and Princeton, 1 each.